

Respiratory Protection for Pesticide Handlers: The California Model

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ABSTRACT

With respiratory protection; as Yoda said, "There is another."

In most cases, the regulatory approach on pesticide labels dealing with respiratory protection when handling pesticides has been either unmoored from any recognized standard ("Wear a full face respirator when using this material"); insufficiently detailed and/or obsolete ("Wear a respirator approved for pesticides."); or simply dumped into the OSHA Standard 29 CFR 1910.134. The major problem with using the OSHA Standard is that it was designed for "...general industry, construction, shipyard, longshoring, and marine terminal workplaces (Fed. Reg. V63 No5, pg 1152) and specifically exempted agricultural operations governed under FIFRA (ibid, pg 1157). The California Department of Pesticide Regulation reviewed 1910.134 and developed respiratory protection regulations specific to the pesticide-handling industries (primarily agricultural and structural treatment) that take into account the nature of the use environments, the diversity of the potential users and the variability and unknowns of the pesticides themselves.

INTRODUCTION

In the 1990's, the Federal Department of Labor (DOL) amended federal regulations concerning respiratory protection. The amending of Title 29, Code of Federal Regulations (CFR), Part 1910.134 was a major change in respiratory protection regulations, combining disparate standards and updating regulations in accordance with new respirator technology.

Contemporaneously, the California Department of Industrial Relations (DIR, Cal/OSHA) also amended its respiratory regulations, adopting, in *toto*, 1910.134 as Title 8, California Code of Regulations (CCR), Section 5144. After reviewing the changes wrought by DIR and DOL The California Department of Pesticide Regulation (DPR), proceeded to make changes in its respirator regulations, found in Title 3, California Code of Regulations (CCR), Section 6738: Personal Protective Equipment.

Early in the amending stage, some advocated adoption of 1910.134 in *toto* also for DPR. However, it was noted that the federal regulation changes of 1910.134 were not made to apply to agricultural pesticide workplaces. Agricultural/pesticide workplaces are covered by the federal Environmental Protection Agency's Worker Protection Standard, adopted under authority of FIFRA. Unlike 1910.134, which relies on employers to "...identify and evaluate the respiratory hazard(s) in the workplace; this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s)..." in deciding if respiratory protection is needed (1910.134(d) (1)(iii)), respiratory protection requirements are controlled by the pesticide label, not necessarily at-site characterization or air sampling.

Additionally, superfluous sections, not germane to pesticides, abound in 1910.134, including assigned protection factors, high-altitude air supplies, and procedures for interior structural firefighting. Such regulatory surplus would not be relevant to the industry regulated. Thus it was decided to use 1910.134 as a guide in crafting respiratory protection regulations specific to the users of pesticides but to discriminate as to the parts to carry over into the new regulation.

Definitions Unique to DPR Section 6739

"Confidential reader" is a person chosen by an employee required to wear a respirator to read to him/her the Medical Evaluation Questionnaire required under section 6739 in a language primarily understood by the employee. This includes, but is not limited to, a coworker, family member, friend, or an independent translator provided by the employer. The employer or the employer's direct agent, such as a supervisor, manager, foreman, or secretary, are not included and are prohibited from being confidential readers.

"Respirator program administrator" is a person who is qualified by appropriate training or experience that is commensurate with the complexity of the respiratory protection program, and demonstrates knowledge necessary to administer a respiratory protection program. Such training or experience includes, but is not limited to, reading and understanding either the American National Standard for Respiratory Protection Publication (ANSI Z88.2), or the U.S. Department of Labor's "Small Entity Compliance Guide for the Revised Respiratory Protection Standard"; or taken specific course work on developing a respiratory protection program from a college or a respirator manufacturer's authorized representative; or is an American Board of Industrial Hygiene Certified Industrial Hygienist.

Must be NIOSH approved.

SIDE BY SIDE COMPARISON OF OSHA 1910.134 TO DPR SECTION 6738

OSHA 1910.134

(a) and (b): *Permissible Practice and Definitions*Regulatory introduction and definitions.

(c): Respiratory Protection Program

Lays out the elements of a compliant respiratory protection program; explains voluntary use; requires the existence of a "respirator program administrator" (but does not explain appropriate training).

(d): Selection of Respirators

Evaluate respiratory hazard(s) in the workplace, identify relevant workplace and user factors, and base respirator selection on these factors; specifies appropriately protective respirators for use in IDLH atmospheres; limits the selection and use of air-purifying respirators; APFs and MUCs; End-of-service life indicators or objective information.



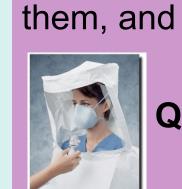
e): Medical Evaluation

Specifies the minimum requirements for medical evaluation that employers must implement to determine the employee's ability to use a respirator. Also requires a written recommendation from the PLHCP.

NOT ADDRESSED BY EITHER OSHA OR DPR

(f): Fit Testing

Specifies the kinds of fit tests allowed, the procedures for conducting them, and how the results of the fit tests must be used.



QUALITATIVE



(g): Respirator Use

Deals with prohibiting conditions that may result in facepiece seal leakage, preventing employees from removing respirators in hazardous environments, taking actions to ensure continued effective respirator operation throughout the work shift, and establishing procedures for the use of respirators in IDLH atmospheres or in interior structural firefighting situations.

OSHA COVERS FIREFIGHTERS, DPR DOES



: Maintenance and Care of Respirators.

Specified cleaning and disinfecting, storage, inspection, and repair of respirators. Requires recharge of SCBA when pressure falls below 90% manufactures recommendations.

DPR REQUIRES THAT THE DISINFECTING AGENT BE A REGISTERED PESTICIDE, EVEN WHEN USED UNDER OSHA JURISDICTION:





DPR Section 6739

DPR does not normally have introductory text for regulations. Some definitions were brought over, all other terms are defined by other agencies other than DPR, and DPR added a few definitions (see below, left).

(a): General Requirements

Lays out the elements of a compliant respiratory protection program. (b): Voluntary Respirator Provision

Explains conditions of voluntary use, i.e. not required by label, restricted material permit condition, or regulation.

(c): Selection of Respirators

Select and provide an appropriate respirator certified by the National Institute for Occupational Safety and Health (NIOSH) based on the respiratory hazard(s) and relevant workplace and user factors to which the worker is exposed; and the appropriate pesticide label, restricted materials permit condition, regulation, or employer requirements, which ever is most protective; fumigant-confining structures shall be considered IDLH atmospheres; specifies appropriately protective respirators for use in IDLH atmospheres. APFs and MUCs are not addressed in pesticide labels and therefore are not within DPR regulations. (o): End of Service Life

(1) At the first indication of odor, taste, or irritation while in use, the respirator wearer leaves the contaminated area, adjusts the mask for fit and on returning still encounters odor, taste, or irritation. This criterion item supercedes any of the criteria listed in (2)-(6).

(2)When any End-of-Service-Life-Indicator (ESLI) indicates that the respirator has reached its end of service;
(3) All disposable filtering facepiece respirators shall be discarded at the service of th

end of the workday;

(4) According to pesticide-specific label directions/recommendations;

(5) According to pesticide-specific directions from the respirator manufacturer;
(6) Absent any pesticide-specific directions/recommendations, at the en

of the day's work period.

(d): Medical Evaluation

(s): Medical Recommendation Form

Specific format for medical recommendation

: Fit Testing

Same as 1910.134 (e) except allows for alternate fit test method that are "... recommended by the manufacturer of the respirator, if such recommendations are in accordance with Title 8 CCR section 5144, Appendix A, Part II. Also explicitly states that QLFT is acceptable for all negative-pressure tight-fitting half or full facepiece respirators used in the application of pesticides.

f): Facepiece Seal Protection

Specifies conditions that may result in facepiece seal leakage and prohibits them, preventsemployees from removing respirators in hazardous environments.

g): Procedures for Immediately Dangerous to Life or Health (IDLH) Atmospheres

Defines fumigant-confining structures (includes chambers and domesti structures) as IDLH unless proven otherwise by appropriate measures; defines appropriate IDLH-procedures, defines appropriate atmosphere supplying respiratory protection.

NOTE: no references to firefighting situations

(h): Cleaning and Disinfecting.

ant approved for such use." Also defines storage requirements for routine use respirators.

(i): Storage of Emergency Respirators.

(j): Inspection and Repair

Same as 1910.134, Defines conditions of efficiency use respirators (j): Inspection and Repair

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Same as 1910.134 except defines two different SCBA tank requirements: Routine use air bottles must be at 80% recommended capacity at the beginning of the workday; emergency use air bottles must be maintained at 100% recommended capacity.

OSHA 1910.134

(i): Breathing Air Quality

Compressed breathing air must be for Grade D breathing air as described in ANSI/CGA Commodity Specification for Air, G-7.1-1989.

(j): Identification of Filters, Cartridges, and Canisters

Employers shall ensure that all filters, cartridges and canisters used in the workplace are labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible.

(k): Training and Information

Requires effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually, or more often if necessary. Also requires the employer to provide the basic information on respirators in Appendix D to employees who wear respirators when not required by this section or by the employer to do so.

(I): Program Evaluation

Requires the employer to conduct evaluations of the workplace to ensure that the written respiratory protection program is being properly implemented, and to consult employees to ensure that they are using the respirators properly.

(m): Recordkeeping

Establish and retain written information regarding medical evaluations, fit testing, and the respirator program.

(n): Effective Date

When Standard becomes effective

(o): Appendices

Appendix A:Fit Test Protocols; Appendix B-1: User Seal Check; Appendix B-2:Cleaning; Appendix C: Medical Evaluation Questionnaire; Appendix D: Voluntary Use Posting.

(k): Breathing Air Quality

Same except references CGA 1997 Standard.

(I): Identification of Filters, Cartridges, and Canisters Identical to OSHA.

DPR Section 6739

(m): Training and Information

Identical to OSHA for training section except for referencing "subsection (r)" for voluntary use conditions.



RESPIRATOR TRAIN

(n): Program Evaluation

Not only requires evaluations as 1910.134, but explicitly mandates documentation that includes employee's names, date of evaluation, and findings. Also sets 30-day time limit for implementing any necessary modifications.

(p): Recordkeeping

Equivalent to OSHA but references DPR and County Agricultural Commissioners as reviewing officials.

DPR Section has no equivalent effective date requirement within its regulations.

(q): Medical Evaluation Questionnai

(r): Voluntary Use Posting



DISCUSSION

DPR's Respiratory Protection regulation became effective January 1, 2008. For six month previous, DPR staff traveled throughout the state, speaking at conferences, seminars, handlers training sessions and any other venues to prepare the employers and workers who would be affected by the new regulation. The DPR website developed a compliance assistance page (http://www.cdpr.ca.gov/docs/whs/ind_hygiene_ppe.htm) so that necessary documents and information were readily available. County agricultural commissioner's staff were also trained, with an emphasis on enforcement of the regulation. Additionally, for a year after the introduction of the regulation, DPR staff continued an intense outreach program.

By using 1910.134 as a guide, DPR was able to develop regulations that were not only as protective of worker health as 1910.134, but also addressed the unique regulatory situation that pesticide labels create in the use of respirators. The requirement for site monitoring is superseded by label requirements that usually mandate the use of respiratory protection, regardless of air contamination levels. Also the use conditions of SCBA's in a DPR-regulated site (verifying clearance in a fumigated structure) are often drastically different from an OSHA regulated site (HAZMAT, fire fighting, other emergency response).

Possibly the most controversial change from 1910.134 is the End-of-Service-Life requirements in Section 6739. Since objective data on most pesticide materials, other than those that have other industrial uses, are scant or non-existent, DPR decided to develop a listing of hierarchically arranged criteria for the replacement of filters and chemical cartridges. Finally, because of requirements on DPR for exactitude in terminology, in certain terms, left somewhat vague in 1910.134, were specifically defined by DPR: "respirator program administrator" and "confidential reader".